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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/734,251

12/15/2003

Nobuo Sasaki

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03/23/2005

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EXAMINER

PERRY, ANTHONY T

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/734,251

Applicant(s)

SASAKI

Examiner

Anthony T. Perry

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-11 and 18-24 is/are allowed.
- 6) ☐ Claim(s) 1, 12, 16, 17 is/are rejected.
- 7) ☐ Claim(s) 13-15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

The Amendment filed on 1/10/2005, has been entered and acknowledged by the Examiner.

Claims 19-24 have been added.

Claim Objections

Claims 13-15 are objected to under 37 CFR 1.75 as being a substantial duplicate of claims 22-24. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaguchi (US 6,520,819) in view of Shunichi et al. (JP 2000-323276).

Regarding claim 1, the Sakaguchi reference teaches a method of manufacturing an organic EL device comprising the steps of forming grooves extending over two or more pixel sites in an insulation film (11) on a substrate (1) and filling said grooves with an EL element (see

Fig. 9). Sakaguchi does not specifically state that the EL element material is dissolved in a solution and the solution is dried.

However, Shunichi teaches a solution in which an organic EL element material is dissolved that is filled in grooves by a printing method providing a simple patterning method within short periods of time while maintaining precision, to easily design the films, to optimize light-emitting property, and to easily adjust the light-emitting efficiency (see the abstract and Fig. 4). The solution is dried in order to remove the solvent, leaving the luminescent layers.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a solution in which an organic EL element material is dissolved so that a more efficient and cost effective inkjet printing method may be used in place of the complicated process of using a shadow mask that must be aligned with the separate grooves to be filled with a particular and repeating the alignment for each additional set of grooves of a different color as taught by Sakaguchi.

Claims 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urabe et al. (US 6,614,174) in view of Sakaguchi (US 6,520,819).

Regarding claims 12 and 16, Urabe discloses an organic EL device comprising a substrate (1), a first insulating film (50) formed on the substrate (1), a first electrode (A) formed on insulating film (50), a second insulating film (15) formed on the first insulating film (50) having grooves provided at a position corresponding to the first electrode (A) (see Fig. 1). An organic layer (10) comprising a buffer layer (102) and an organic EL layer (103) is formed in the grooves with one surface electrically connected to the first electrode (A) and a second surface electrically connected to a second electrode (K) (see Fig. 3c). The buffer layer (102) is formed

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between the first electrode (A) and the organic EL layer (103). Urabe et al. do not specifically teach the grooves extending over two or more pixel sites.

However, Sakaguchi teaches the grooves extending over more than two pixel sites (see Fig. 9). Such a structure would allow for a less complicated deposition of the buffer layers and EL layers since an entire row including multiple pixels could be filled at once instead of having to stop and start for each individual pixel and/or requiring the use of complicated, expensive masks. One of ordinary skill in the art would have found it obvious at the time the invention was made to have had the grooves extending the entire length of the area containing pixels so as to simplify the deposition process of the Urabe reference.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shunichi et al. (JP 2000-323276) in view of Sakaguchi (US 6,520,819).

Regarding claim 17, the Shunichi reference teaches a method of manufacturing an organic EL device comprising the steps of forming grooves in an insulation film (105) on a substrate (104) and filling said grooves with a solution in which a material that becomes a buffer layer (120) between an organic layer (106,107,108) and an electrode (101,102,103) is dissolved (see the abstract and Fig. 4). The solution is dried in order to remove the solvent, leaving the buffer layer (120). Shunichi does not specifically teach the grooves extending across two or more pixel sites.

However, Sakaguchi teaches the grooves extending over more than two pixel sites (see Fig. 9). Such a structure would allow for a less complicated printing of the buffer layers since an entire row including multiple pixels could be filled at once instead of having to stop and start for each individual pixel. One of ordinary skill in the art would have found it obvious at the time the

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invention was made to have had the grooves extending the entire length of the area containing pixels so as to simplify the printing process of the Shunichi reference.

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 2, 4, and 8, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims, and specifically comprising the limitation of forming stoppers that prevent the solutions from filling the entire groove and then removing the stoppers.

Regarding claim 3, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims, and specifically comprising the limitation of the grooves extending over two or more pixel sites with their edge portions being shifted from one another and immersing the shifted edge portions in two separate solutions containing two different EL materials.

Regarding claims 5-7, 9-11, and 19-21, claims 5-7, 9-11, and 19-21 are allowable for the reasons given in claims 2, 4, and 8 because of their dependency status from claims 2, 4, and 8.

Regarding claim 18, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims, and specifically comprising the limitation of the grooves being filled by capillary phenomenon with a solution in which a material that becomes an electrode is dissolved.

Regarding claim 22, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims, and specifically comprising the limitation of the pixels being made up of plural sets of grooves wherein each set of grooves is formed of

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different colors. The prior art teaches pixels made up of plural grooves wherein each groove is filled with a different color, but not plural sets of grooves per pixel.

Regarding claims 23-24, claims 23-24 are allowable for the reasons given in claim 22 because of their dependency status from claim 22.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Anthony Perry* whose telephone number is **(571) 272-2459**. The examiner can normally be reached between the hours of 9:00AM to 5:30PM Monday thru Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (571) 272-24597. **The fax phone number for this Group is (703) 872-9306.**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Anthony Perry
Patent Examiner
Art Unit 2879
March 21, 2005



Vip Patel
Primary Examiner
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